SEMESTER END EXAMINATION, April-MAY - 2026

Course Name: - B.Tech (AIFM/CE/EE/ME/ECE) **Semester: - 2nd**

Paper Name: - Programming for Problem Solving Using C **Paper Code: - NES-201**

Time - 3Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. **Max Marks-70**

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **3 marks. All questions are compulsory.**
- Section B- Answer any **5 out of 7** given questions. Each question carries **7 marks.**
- Section C- Answer any **2 out of 3** given questions. Each question carries **10 marks.**

Section – A
Objective Questions

1. Answer allthe following questions. **5x3 =15**

i) All keywords in C_____.

a) Lower Case letters
b) Upper Case letters
c) Camel Case letters
d) None of the mentioned

ii) Which of the following is not an arithmetic operator?

a) +
b) &
c) %
d) *

iii) What will be the output of the program?

```
void main()
{
int a = 1, b = 2, c = 3;
printf ("%d %d %d"); }
```

a) Garbage value
b) Syntax error
c) 3 2 1
d) None of these

iv) What will be the output of the program?

```
#include<stdio.h>
void main()
{
int a, b=10;
scanf ("%d", &a);
if (a = 0)
        b *= 2;
else
        b /= 2;
printf ("%d", b);
}
```

a) 20
b) 10
c) 5
d) None

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v) Binary search algorithm cannot be applied to.

a) Sorted linked list b) Sorted Binary tree

c) Sorted linear Array d) Pointer Array

Section - B
Short Answer Questions

2. Answer any five of the following questions. **5x7=35**

i. Define a computer. Draw block diagram of computer. Explain all components of computers.

ii. Write the difference call by value and call by reference. Write a program to swap any two numbers without using third variable.

iii. What is software? Explain various types of computer software's.

iv. Write a program to print the month of the year depending on the value of an integer variable 'month'. It assumes that month 1 is January.

v. Draw the flowchart and write a program to find the greatest among three numbers.

vi. Write a program to find the factorial of any given number by using recursive function.

vii. Write a C program to print:

```
1
12
123
1234
12345
```

Section - C
Descriptive Questions

3. Answer any two of the following question. **2x10=20**

i) Explain following with example :

A) Data types B) File Handling C) Searching Algorithms D) Pointer

ii) What is sorting? Write a program to demonstrate the use of Bubble sort method to sort an array in ascending order.

iii) Convert following numbers as:

A) $(1110100101)_2$ to $(?)_{10}$

B) $(978)_{10}$ to $(?)_8$

C) $(419)_{10}$ to $(?)_2$

D) $(1001110010100110)_2$ to $(?)_{16}$

E) $(4371)_{10}$ to $(?)_{16}$

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